

generated by a reporter molecule that is appended to the signaling aptamer prior to binding the ligand comprising the steps of:

contacting the signaling aptamer in solution with the ligand under conditions whereby the signaling aptamer binds the ligand; and

detecting the differential signal generated by the reporter molecule transduced by the conformational change in the signaling aptamer upon binding the ligand wherein the differential signal is an optical signal expressed as fluorescence intensity or colorimetric intensity.

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[Please amend claim 2 to read as follows:]

2. (amended) The method of claim 1, wherein the differential signal further comprises an electrochemical signal or an enzymatic signal.

[Please amend claim 5 to read as follows:]

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5. (amended) The method of claim 1, wherein the reporter molecule is appended to an aptamer by covalent coupling or non-covalent coupling thereby forming the signaling aptamer.

Please amend claim 10 to read as follows:

93 10. (amended) The method of claim 5, wherein the aptamer is selected from the group consisting of RNA, DNA, modified RNA and modified DNA.

[Please amend claim 15 to read as follows:]

94 15. (amended) A method of transducing the conformational change of a signaling aptamer that occurs upon the signaling aptamer binding a ligand to a detectable optical signal generated by a fluorescent dye that is appended to the signaling aptamer at a site that does not interfere with a ligand-binding site of the signaling aptamer prior to binding the ligand comprising the steps:

contacting the signaling aptamer in solution with the ligand under conditions whereby the signaling aptamer binds the ligand; and

detecting the optical signal generated by the fluorescent dye transduced by the conformational change in the signaling aptamer upon binding the ligand, wherein the optical signal is expressed as fluorescence intensity or colorimetric intensity.

Please amend claim 17 to read as follows:

95 17. (amended) The method of claim 15, wherein the fluorescent dye is appended to an aptamer by covalent coupling thereby forming the signaling aptamer.

[Please amend claim 18 to read as follows:]

18. (amended) The method of claim 17, wherein the fluorescent dye replaces a nucleic acid residue in the aptamer or is inserted between two nucleic acid residues in the aptamer.

[Please amend claim 19 as to read follows:]

19. (amended) The method of claim 15, wherein the fluorescent dye is fluorescein or acridine.

[Please amend claim 28 to read as follows:]

28. (amended) The method of claim 15, wherein the ligand is quantitated by the step comprising:

94 correlating the optical signal generated upon the signaling aptamer binding the ligand with the quantity of ligand bound to the signaling aptamer.

Please cancel claims 3-4, 13-14, 16, and 26-27.